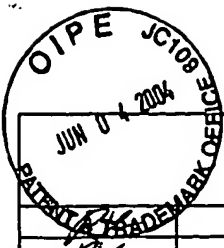
FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE  
(Modified) PATENT AND TRADEMARK OFFICEINFORMATION DISCLOSURE  
STATEMENT BY APPLICANT  
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2036/US/2 (1959/US/2)APPLN. NO.  
10/728,522APPLICANT:  
Romain Desplats et al.FILING DATE  
December 5, 2003GROUP  
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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>AK</i>	Re. 33,241	06/1990	Tsuchiya	356	318	
	4,091,277	05/1978	Doblhofer	250	214 R	
	4,115,694	09/1978	Lange et al.	250	363 S	
	4,242,635	12/1980	Bums	324	158 R	
	4,415,807	11/1983	Friauf et al.	250	363 S	
	4,431,914	02/1984	Mourou et al.	250	211 J	
	4,555,731	11/1985	Zinchuk	358	209	
	4,591,984	05/1986	Mori	364	414	
	4,680,635	07/1987	Khurana	358	211	
	4,686,371	08/1987	Birch et al.	250	461.1	
	4,704,522	11/1987	Hirai et al.	250	213 VT	
	4,706,018	11/1987	Beha et al.	324	158 R	
	4,755,874	07/1988	Esrig et al.	358	106	
	4,766,372	08/1988	Rao	324	158 R	
	4,811,090	03/1989	Khurana	358	93	
	4,845,425	07/1989	Beha et al.	324	158 R	
	4,858,128	08/1989	Nowak	382	131	
	4,992,092	05/1990	Rushbrooke et al.	250	213 VT	
	4,992,662	02/1991	Danilatos	250	310	
	5,006,717	04/1991	Tsutsu et al.	250	484.1	
	5,043,584	08/1991	Koishi	250	458.1	
	5,164,664	11/1992	Soelkner	324	158 R	
	5,168,164	12/1992	Urakami et al.	250	458.1	
	5,175,495	12/1992	Brahme et al.	324	158 R	
	5,301,006	04/1994	Bruce	356	311	
	5,304,791	04/1994	Migliaccio	250	214 VT	
	5,391,885	02/1995	Imataki et al.	250	492.2	
	5,424,558	06/1995	Borden et al.	250	573	
	5,451,863	09/1995	Freeman	324	96	
	5,475,316	12/1995	Hurley et al.	324	750	
	5,504,431	04/1996	Maeda et al.	324	501	
	5,523,694	06/1996	Cole, Jr.	324	751	
	5,541,547	07/1996	Lam	327	355	
	5,561,293	10/1996	Peng et al.	250	307	
	5,598,100	01/1997	Maeda et al.	324	501	
	5,650,643	07/1997	Konuma	257	225	
	5,656,807	08/1997	Packard	250	214 VT	
	5,661,520	08/1997	Bruce	348	92	
	5,724,131	03/1998	Chim et al.	356	237	
	5,754,291	05/1998	Kain	356	338	
	5,760,892	06/1998	Koyama	356	237	
	5,869,842	02/1999	Kang et al.	250	551	
	5,940,545	08/1999	Kash et al.	382	312	
	5,970,167	10/1999	Colvin	382	149	
	6,028,434	02/2000	Bushman	324	750	
	6,049,079	04/2000	Noordam et al.	250	338.1	

*R. H. [Signature]* 9-22-04



U.S. PATENT DOCUMENTS

<i>RV</i>	6,076,010	06/2000	Boas et al.	600	477	
<i>RV</i>	6,078,681	06/2000	Silver	382	133	
<i>RV</i>	6,078,877	06/2000	Fujii et al.	702	188	
<i>RV</i>	6,225,626	05/2001	Talbot et al.	250	307	
<i>RV</i>	**6,327,394	02/2001	Kash et al.	382	280	
<i>RV</i>	6,469,529	10/2002	Bruce et al.	324	752	
<i>RV</i>	*6,515,304	02/2003	Kash et al.	257	79	
<i>RV</i>	**6,521,479	02/2003	Harrison et al.	438	106	
<i>RV</i>	*6,526,415	02/2003	Smith et al.	707	104.1	
<i>RV</i>	**6,657,222	12/2003	Foden et al.	257	13	

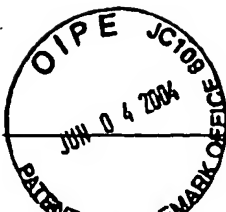
FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

	DOCUMENT NUMBER	PUBLISHED DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>RV</i>	Firmani, C. et al., "High-Resolution Imaging With a Two-Dimensional Resistive Anode Photon Counter", Rev. Sci. Instrum. 53 (5); pp. 570-574, (May 1982).
	Charbonneau, S. et al., "Two-Dimensional Time-Resolved Imaging with 100-ps Resolution Using a Resistive Anode Photomultiplier Tube", Rev. Sci. Instrum., 63 (11), pp. 5315-5319, (November 1992).
	Shah, Jagdeep et al., "Subpicosecond Luminescence Spectroscopy Using Sum Frequency Generation", Appl. Phys. Lett., pp. 1307-1309, (May 1987).
	McMullan, W. G. et al., "Simultaneous Subnanosecond Timing Information and 2D Spatial Information From Imaging Photomultiplier Tubes", Rev. Sci. Instrum., American Institute of Physics, 58 (9), pages 1626-1628, (September 1987).
	Cova, S. et al., "Constant-Fraction Circuits for Picosecond Photon Timing With Microchannel Plate Photomultipliers", Rev. Sci. Instrum. 64 (1), pp. 118-124, January 1993.
	Berndt, R. et al., "Atomic Resolution in Photon Emission Induced by a Scanning Tunneling Microscope", The American Physical Society, Physical Review Letters, Vol. 74, No. 1, pp. 102-103, (1994). <i>(No Month)</i>
	Hungerford, G. et al., "Single-Photon Timing Detectors for Fluorescence Lifetime Spectroscopy", Maes. Sci. Technol., 7, pp. 121-135, (1996). <i>(No Month)</i>
	Tsang, J. C. et al., "Picosecond Imaging Circuit Analysis", IBM Journal of Research and Development, Vol. 44, No. 4, (July 2000).
	Hawkins, C. et al., "The Use of Light Emission in Failure Analysis of CMOS Ics", ISTFA, pp. 55-67, (1990). <i>(No Month)</i>
	Weste, N. et al., "Principles of CMOS VLSI Design: A Systems Perspective", Second Edition, (1993). <i>(No Month)</i>
	"Evaluation of Hot Carrier Induced Degradation of MOSFET Devices", Agilent Technologies, pp. 1-4, (2000). <i>(No Month)</i>
	"Photon Counting: A Brief History", Photek, <a href="http://fp.photek.plus.com">http://fp.photek.plus.com</a> , (Date printed November 8, 2002).
	Dajee G. et al., "Practical, Non-Invasive Optical Probing for Flip-Chip Devices," IEEE, pp. 433-442, (2001). <i>(No Month)</i>
	"The National Technology Roadmap for Semiconductors: Technology Needs", SIA Semiconductor Industry Association, (1997). <i>(No Month)</i>
	"Emission Microscopy/Liquid Crystal", Accurel Systems International Inc., <a href="http://www.accurel.com/html/Services/EMLC">http://www.accurel.com/html/Services/EMLC</a> , (2002). <i>(No Month)</i>
	"PEM-1000 Photon Emission Microscope", TNP Instruments, Inc., <a href="http://www.tnpinstruments.com/pen1000.htm">http://www.tnpinstruments.com/pen1000.htm</a> , (1999). <i>(No Month)</i>
	"Spectroscopic Photon Emission Microscopy Studies of Semiconductor Devices", National University of Singapore, Engineering Research, <a href="http://eng.nus.edu.sg/Eresnews">http://eng.nus.edu.sg/Eresnews</a> , Vol. 12, No. 1, (February 1997).
	Vasile et al., "Photon Detection With High Gain Avalanche Photodiode Arrays", Radiation Monitoring Devices, Inc., IEEE Trans. Nucl. Sci., <a href="http://www.rmdinc.com">http://www.rmdinc.com</a> , (1998). <i>(No Month)</i>
	Thompson, T., "Charged-Coupled Device", Computer World, Inc., <a href="http://www.computerworld.com">http://www.computerworld.com</a> , (August 6, 2001).
	"Space Research Yields High-Tech Reward", University of Rochester, <a href="http://www.rochester.edu">http://www.rochester.edu</a> , (August 13, 2001).
	Ouellette, J., "Failure Analysis in a Nanometer World", The Industrial Physicist, pp. 11-14, (June 1998).
	Tsang, J., "The Characterization of Switching Activity in Working IC's by Picosecond Hot Carrier Emission from CMOS Gates", University of Illinois at Urbana-Champaign College of Engineering, <a href="http://ece.uiuc.edu">http://ece.uiuc.edu</a> , (October 8, 1998).
	Derbyshire, K., "Prospects Bright for Optoelectronics Volume, Cost Drive Manufacturing for Optical Applications", Semi Conductor Magazine, Vol. 3, No. 3, <a href="http://www.semi.org">http://www.semi.org</a> , (March 2002).
<i>↓</i>	"Hot-Electron Effect in Superconductors and Its Applications for Radiation Sensors", Cascade Microtech, Inc., LLE Review, Volume 87, 134-136, (1994). <i>(No Month)</i>

*R. J. [Signature] 9-22-04*



OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

RK	Kikuchi, M., "Visible Light Emission and Microplasma Phenomena in Silicon p-n Junction", Journal of the Physical Society of Japan, Vol. 15, No. 12, pp. 1822-1831, (October 1960).
	Das, N. C. et al., "Luminescence Spectra of an n-Channel Metal-Oxide-Semiconductor Field-Effect Transistor at Breakdown, Appl. Phys. Lett. 56 (12), pp. 1152-1153, (19 March 1990).
	Kuo, M. M. et al., "Simulation of MOSFET Lifetime Under AC Hot-Electron Stress", IEEE Transactions on Electron Devices, Vol. 35, No. 7, (July 1988).
	Bellens, R. et al., "The Influence of the Measurement Setup on Enhanced AC Hot Carrier Degradation of MOSFET's", IEEE Transactions on Electron Devices, Vol. 37, No. 1, pp. 310-313, (January 1990).
	Hawkins, C. F. et al., "Quiescent Power Supply Current Measurement for CMOS IC Defect Detection", IEEE Transactions on Industrial Electronics, Vol. 36, No. 2, pp. 211-218, (May 1989).
	Hu, C. et al., "Hot-Electron-Induced MOSFET Degradation - Model, Monitor, and Improvement", IEEE Transactions on Electron Devices, Vol. ED-32, No. 2, pp. 375-385, (February 1985).
	Toriumi, A. et al., "A Study of Photon Emission from n-Channel MOSFET's", IEEE Transactions on Electron Devices, Vol. ED-34, No. 7, pp. 1501-1508, (July 1987).
	Tam, S. et al., "Hot-Electron-Induced Photon and Photocurrent Generation in Silicon MOSFET's", IEEE Transactions on Electron Devices, Vol. ED-31, No. 9, pp. 1264-1273, (September 1984).
	van der Pol, J. A. et al., "Relation Between the Hot Carrier Lifetime of Transistors and CMOS SRAM Products", 1990 IEEE Annual International Reliability Physics, New Orleans, pp. 178-185, (1990). (No Month)
	Stehle, P., "Particle Transport, Electric Currents, and Pressure Balance in a Magnetically Immobilized Plasma", The Physical Review, Second Series, Vol. 100, No. 2, pg. 443, (October 15, 1955).
	Newman, R., "Visible Light From a Silicon p-n Junction", The Physical Review, Vol. 100, No. 2, pp. 700-703, (October 15, 1955).
	Kressel, H., "A Review of the Effect of Imperfections on the Electrical Breakdown of p-n Junctions", RCA Review, Vol. 28, No. 2, pp. 175-207, (June 1967).
	Chynoweth, A. G. et al., "Effect of Dislocations on Breakdown in Silicon p-n Junctions, Journal of Applied Physics, Vol. 29, No. 7, pp. 1103-1110, (July 1958).
	Goetzberger, A. et al., "Avalanche Effects in Silicon p-n Junctions. II. Structurally Perfect Junctions", Journal of Applied Physics, Vol. 34, No. 6, pp. 1591-1600, (June 1963).
	Tam, S. et al., "Spatially Resolved Observation of Visible-Light Emission From Si MOSFET's", IEEE Electron Device Letters, Vol. EDL-4, No. 10, pp. 386-388, (October 1983).
	Lampert, M. A., "Incidence of an Electromagnetic Wave on a 'Cerenkov Electron Gas'", The Physical Review, Second Series, Vol. 102, No. 2, pp. 299-376, (April 15, 1956).
	Weber, W. et al., "Degradation of n-MOS-Transistors After Pulsed Stress", IEEE Electron Device Letters, Vol. EDL-5, No. 12, pp. 518-520, (December 1984).
	Chiang, C. et al., "Imaging and Detection of Current Conduction in Dielectric Films by Emission Microscopy", IEEE, pp. 672-675, (1986). (No Month)
	Das, N. C. et al., "Visible Light Emission from Silicon MOSFETS", Solid-State Electronics, Vol. 28, No. 10, pp. 967-977, (1985). (No Month)
	Childs, P. A. et al., "Evidence of Optical Generation of Minority Carriers From Saturated MOS Transistors", Solid-State Electronics, Vol. 26, No. 7, pp. 685-688, (1983). (No Month)
	Khurana, N. et al., "Analysis of Product Hot Electron Problems by Gated Emission Microscopy", IEEE/IRPS, pp. 189-194, (1986). (No Month)
	Khurana, N. et al., "Dynamic Imaging of Current Conduction in Dielectric Films by Emission Microscopy", IEEE/IRPS, pp. 72-76, (1987). (No Month)
	Hawkins, C. et al., "Reliability of Electrical Properties of Gate Oxide Shorts in CMOS ICs", IEEE, pp. 443-451, (1986). (No Month)
	Willis, K. et al., "Photoemission Testing for ESD Failures Advantages and Limitations", EOS/ESD Symposium Proceedings, pp. 53-61, (1988). (No Month)
	Toriumi, A. et al., "A Study of Photon Emission from n-Channel MOSFET's", IEEE Transactions on Electron Devices, Vol. ED-34, No. 7, (July 1987).
	Tsuchiya, T. et al., "Emission Mechanism and Bias-Dependent Emission Efficiency of Photons Induced by Drain Avalanche in Si MOSFET's", IEEE Transactions on Electron Devices, Vol. ED-32, No. 2, pp. 405-412, (February 1985).
	Boit, C. et al., "Discrimination of Parasitic Bipolar Operating Modes in ICs With Emission Microscopy", IEEE/IRPS, pp. 81-85, (1990). (No Month)
	Fritzsche, R. R. et al., "Increased CMOS IC Stuck-At Fault Coverage With Reduced IDDQ Test Sets", IEEE, pp. 427-435, (1990). (No Month)
	Subrahmaniam, R. et al., "MOSFET Degradation Due to Hot-Carrier Effect at High Frequencies", IEEE Electronic Device Letters, Vol. 11, No. 1, pp. 21-23, (January 1990).
	Willis, K. et al., "Photoemission Testing For EOS/ESD Failures in VLSI Devices: Advantages and Limitations", Proceedings of the International Symposium for Testing and Failure Analysis, pp. 183-192, (November 1989).
	Hawkins, C. et al., "Electrical Characteristics and Testing Considerations for Gate Oxide Shorts in CMOS ICs", IEEE International Test Conference, Paper 15.5, pp. 544-555, (1985). (No Month)
✓	Shade, G. F., "Physical Mechanisms for Light Emission Microscopy", Proceedings International Symposium for Testing and Failure Analysis, pp. 121-128, (1990). (No Month)
RK	Tsutsu N. et al., "New Detection Method of Hot-Carrier Degradation Using Photon Spectrum Analysis of Weak Luminescence on CMOS VLSI, Proc. IEEE 1990 Int. Conference on Microelectronic Test Structures, Vol. 3, pp. 143-148, (March 1990).
RK	Singer, P. H., "Live TV Pictures of Transistor Failure", Semiconductor International, pg. 30, (March 1986).

R. K. 9-22-04

